

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference syn.3282.pct.ac.m	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/GB2005/000661	International filing date ( <i>day/month/year</i> ) 24 February 2005 (24.02.2005)	Priority date ( <i>day/month/year</i> ) 25 February 2004 (25.02.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant CALEDUS LIMITED		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
  2. This REPORT consists of a total of 7 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input checked="" type="checkbox"/> | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input checked="" type="checkbox"/> | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 30 August 2006 (30.08.2006)</p> <p>Authorized officer</p> <p style="text-align: center; font-size: 1.2em;">Nora Lindner</p> <p>e-mail: pt02@wipo.int</p>
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 02 JUN 2005

WIPO

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To:

01/09

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2005/000661

International filing date (day/month/year)  
24.02.2005

Priority date (day/month/year)  
25.02.2004

International Patent Classification (IPC) or both national classification and IPC  
E21B17/14

Applicant  
SYNERGETECH LIMITED

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000661

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2005/000661

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, Inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-14, 17, 19-21
	No: Claims	15, 16, 18, 22-27
Inventive step (IS)	Yes: Claims	1-14, 17, 20, 21
	No: Claims	15, 16, 18, 19, 22-27
Industrial applicability (IA)	Yes: Claims	1-27
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

Reference is made to the following documents:

D1: US 6 401 820 (cited by the applicant)

D2: WO 01/83932

D3: US 2003/075364

**V - Reasoned statement with regard to novelty, inventive step or industrial applicability**

**V-1 Claim 1**

D1, which is considered as the closest prior art, describes a shoe (20) for use on the end of a work string (column 5, lines 36-37) within a well bore, the shoe comprising a generally cylindrical body (12) having a first end adapted for connection to the work string and a second end including a nose portion (28); the body having thereupon a reaming portion (14) located behind the nose portion (fig.1) wherein the reaming portion comprises a plurality of raised members (16, 18, 22).

The distinguishing feature of claim 1 with regard to D1 is "each pair..for grinding the debris.

The technical problem to be solved can be seen as how to provide a system which produces smaller cuttings which can be easier evacuated.

The distinguishing feature of having opposed raised members by pair disposed parallel and longitudinally along the body is merely a normal design possibility which does not justify an inventive step.

The feature of the adjacent pair of members providing a funnel for collecting approaching debris and a channel for grinding the debris is neither disclosed nor suggested by D1 which merely uses the rearwardly directed jetting ports (24) in order to clear cuttings from between the reaming members (column 5, lines 58-61). Thus, the skilled man would try to improve the fluid clearing of the debris instead of modifying the configuration of the reaming members. D2 (fig.2) as well as D3 (fig.1)

teach about reaming members (6) which can be considered as providing a funnel shaped channel between the adjacent members, but the resulting channels between those members do not appear to lead to a further grinding of the debris. Consequently, the skilled man would not find a hint on how to combine any of D2 or D3 with D1 in order to arrive at the subject-matter of claim 1.

Therefore, claim 1 meets the requirement for inventive step of Art. 33(3) PCT.

**V-2 Claims 2 to 14**

Claims 2 to 14 as dependent claims from claim 1 also meet the requirements of Art. 33 PCT.

**V-3 Claim 15**

D1 discloses a shoe ... a nose portion (see point V-1); the nose portion including a rounded head (28) distal to the body for advancement through the well bore and a plurality of blades (16, 18, 22) extending (fig.1) from the head towards the body (12); the body having thereupon a reaming portion (14) located behind the nose portion (fig.1) wherein the reaming portion comprises a plurality of discrete raised members (16, 18, 22) to ream the bore.

Therefore, claim 15 is not new.

**V-4 Claims 16, 18, 22 to 27**

The following claims are also not new with regard to D1: 16, 18, 22 to 27. Therefore, claims 16, 18, 22 to 27 do not meet the requirement for novelty of Art. 33(2) PCT.

**V-5 Claims 17, 20 and 21**

Claim 17 comprises the inventive feature as pointed out in V-1. The same apply for claims 20 and 21. Therefore, claims 17, 20 and 21 meet the requirement for inventive step of Art 33(3) PCT.

V-6 Claim 19

The feature of claim 19 is merely a normal design possibility which does not appear to involve an inventive step. Therefore, claim 19 does not meet the requirement for inventive step of Art. 33(3) PCT.

**VII - Certain defects**

- VII-1 The independent claims are not properly cast in the two part form, with those features which in combination are part of the closest prior art (D1) being placed in the preamble, contrary to the requirements of Rule 6.3(b) PCT.
- VII-2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).